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Notice of Allowability

Application No.

09/866,981

Examiner

Bao Q. Truong

Applicant(s)

FREERKSEN ET AL.

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2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 31 August 2004.
2. ☒ The allowed claim(s) is/are 1-2, 10-15, 17, 19-21, 29-34, 36, and 38 now renumbered as 1-20 respectively.
3. ☒ The drawings filed on 26 January 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Response to Amendment

1. The examiner acknowledges the applicant's submission of Amendment for Application No. 09/866,981 dated on 31 August 2004. At this point, claims 3-9, 16, 18, 22-28, 35, and 37 have been cancelled; claims 1 and 20 have been amended. There are 20 claims pending in the application; there are 8 independent claims and 12 dependent claims, all of which are ready for reconsideration by the examiner.

Allowable Subject Matter

2. Claims 1-2, 10-15, 17, 19-21, 29-34, 36, and 38 are allowed.

3. The following is an examiner's statement of reasons for allowance:

Claim 1 is allowable for the combination including the limitation of:

“snooping a system response to said first command at said processor, said snooping at system responses step being performed after said invalidating step; and

wherein said processing step converts said second command to a third command in said transition cache if said system response to said first command is a retry, said third command requesting that said cache line be stored in main memory of said multi-processor system, and discards said second command without issuing a bus command if said system response to said first command indicates normal completion of said first command.”

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Claim 10 is allowable for the combination including the limitation of:

“wherein said generating step does not generate a retry snoop response when said determining step determines that data has not started to arrive at said transition cache in response to said non-exclusive command”

Claim 13 is allowable for the combination including the limitation of:

“wherein said generating step generates a retry snoop response when said determining step determines that data has started to arrive at said transition cache in response to said non-exclusive command.”

Claim 14 is allowable for the combination including the limitation of:

“wherein said processing step converts said response to said first command into a second command for writing said requested cache line in a main memory of said multi-processor system when said system response to said first command is a retry and said memory coherency image state for said requested cache line in said cache which transferred said requested cache line to said transition cache indicated modified data in said requested cache line prior to said updating step.”

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Claim 20 is allowable for the combination including the limitation of:

“wherein said transition cache converts said castback command to a second command if said system response to said first command is a retry, said second command requesting that said cache line be stored in a main memory of said multi-processor system, and wherein said transition cache discards said castback command without issuing a bus command if said system response to said first command indicates that said first command complete normally.”

Claim 29 is allowable for the combination including the limitation of:

“wherein said transaction cache does not generate a retry snoop response when data has not started to arrive at said transition cache in response to said non-exclusive command.”

Claim 32 is allowable for the combination including the limitation of:

“wherein said transition cache generates a retry snoop response when data has started to arrive at said transition cache in response to said non-exclusive command.”

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Claim 33 is allowable for the combination including the limitation of:

“wherein said processing step converts said response to said first command into a second command for writing said requested cache line in a main memory of said multi-processor system when said system response to said first command is a retry and said memory coherency image state for said requested cache line in said cache which transferred said requested cache line to said transition cache indicated modified data in said requested cache line prior to said updating step.”

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

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Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bao Q Truong whose telephone number is (703) 308-7090. The examiner can normally be reached on Monday-Friday from 6:00 AM to 3:00 PM (ET).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald A Sparks, can be reached on (703) 308-1756. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

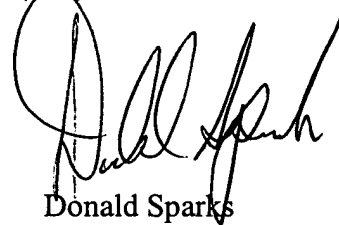
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Bao Q Truong

BT

Patent Examiner

27 September 2004

A handwritten signature in black ink, appearing to read "Donald Sparks", is written over a circular stamp or seal.

Donald Sparks

Supervisory Patent Examiner

Technology Center 2100